

What is claimed is:

1. A semiconductor device comprising a boosting circuit that supplies a power supply voltage during a standby state of the semiconductor device, the boosting circuit including

a charge pump circuit,

a first detection circuit that detects an output voltage of the charge pump circuit, and

a second detection circuit that detects the output voltage of the charge pump circuit, the second detection circuit operating with a DC current greater than that of the first detection circuit and being activated by a detection signal of the first detection circuit,

wherein the charge pump circuit is activated based on at least a detection signal of the second detection circuit.

2. The semiconductor device according to claim 1, wherein the detection level of the second detection circuit is higher than the detection level of the first detection circuit.

3. The semiconductor device according to claim 1, wherein the charge pump circuit is activated based on a

result of AND operation of the detection signals of the first and second detection circuits.

4.           The semiconductor device according to claim 1,  
5 wherein the second detection circuit generates a signal to inactivate the charge pump circuit based on a status in which the output voltage of the charge pump circuit reaches a predetermined voltage corresponding to the detection level of the second detection circuit.

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5.           The semiconductor device according to claim 1,  
wherein a period for which the second detection circuit is active is shorter than a period for which the first detection circuit is active.